Structured Abstracts of Clinical Trial Reports in MEDLINE, 1993: Descriptive Survey and Assessment

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The structured formatting of the abstract of a clinical trial report into separate sections describing specific elements of the study (objectives, design, setting, participants, interventions, measurements, results, and conclusions) aims to guide authors to the most precise and accurate presentation of their research. Thus is the structured abstract suggested to assist health professionals to identify valid and relevant journal articles, facilitate the peer review process, and enhance computerized literature retrieval [1]. Major objections to the structured format have addressed stilted style and diminished readability [2]. However, anticipated benefits and limitations both await empirical demonstration. Since its introduction in 1987, the structured abstract has been adopted with enthusiasm by an ever-increasing number of medical journals, but formats vary widely in both style and adherence to published guidelines [3]. This research begins to investigate the nature of the structured abstract and its penetration into the medical literature after 5 years' experience with the format, and to assess the implications of the structured style for length, topical coverage, and readability.

DESCRIPTIVE SURVEY

The MEDLINE database (University of California, Melvyl) was searched for all records of publication type Clinical Trial for publication year 1993, eliminating those also identified as Letters, News, Editorials, or Comments. Extrapolating from a 10-year growth curve, the 8,136 records so retrieved were estimated to form an 88% sample of clinical trial reports for 1993. Records were organized by journal title, and each abstract was graded on its level of formal structure according to the number of headings present: NS (no structure; 0 headings), LS (low structure; 5 or fewer headings), HS (high structure; 6 or more headings). Of 7,570 abstracts present (93% of records), 77% had no structure, 18% had low structure, and 5% were highly structured. Only 13% of the 1,126 journals accounted for all abstracts with any structure; 81% of these journals had 5 or fewer apiece. Per NLM policy, no structured abstract was truncated, but 10% of NS abstracts were.

ASSESSMENT

Subsets of abstracts from a single journal (*Chest*) were examined in more detail to control for possible effects of general subject matter or editorial policy. Abstract length was roughly proportional to level of structure, averaging 220 words in 36 NS, 256 words in 7 LS, and 276 words in 14 HS abstracts; NS abstracts more often conformed to the 250-word target limit than did structured abstracts (67% *vs* 43%). Groups varied in coverage of study setting, which was in 2 NS, 0 LS, and 4 HS abstracts, but all 15 abstracts covered the remaining study elements. Groups of 5 abstracts of comparable length at each level of structure did not vary appreciably in scoring on standard readability indices (Flesch Reading Ease Score, Flesch-Kincaid Grade Level, Gunning Fog Index), probably due to the technical level of the subject matter. A focus group of subject experts in cardiovascular epidemiology found readability to increase with level of structure, on a 5-point scale, scoring NS-2.1, LS-3.3, and HS-3.9.

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